

WHAT IS CLAIMED IS:-

1. An optical disk reproducing device comprising:
means for rotating an optical disk at a selected one of a plurality of linear velocities;
means for reading data from the disk while the disk is rotated;
means for detecting vibration or shock of the device during rotation of the disk; and
a velocity control circuit for determining the linear velocity of the disk based on the result of the detection of the vibration or shock.
2. The device according to claim 1, further comprising:
a lens for converging the laser beam illuminating the disk;
a focusing unit for moving the lens in the focus adjustment direction;
wherein said detecting means detects the vibration based on the electromotive force generated in the focusing unit.
3. The device according to claim 2, further comprising:
a focus control circuit for supplying a control current to the focusing unit; and
a selector for selectively connecting the focusing unit with the focus control circuit or the velocity control circuit.
4. The device according to claim 1, further comprising:
a lens for converging the laser beam illuminating the disk;
a tracking unit for moving the lens in the radial direction of the disk;

wherein said detecting means detects the vibration based on the electromotive force generated in the tracking unit..

5. The device according to claim 4, further comprising:
a tracking control circuit for supplying a control current to the tracking unit; and

a selector for selectively connecting the tracking unit with the tracking control circuit or the velocity control circuit.

6. The device according to claim 1, wherein
said velocity control circuit finds a limit rotational velocity above which the vibration or shock is excessive; and sets the linear velocity of the disk such that the rotational velocity does not exceed said limit rotational velocity.

7. The device according to claim 6, wherein
said velocity control circuit causes the linear velocity to be one of the plurality of preset values; and
while a beam spot for reading data from the disk is moving radially outwards said velocity control circuit switches the linear velocity to a higher one of the preset values at a point where such switching does not result in the rotational velocity exceeding said limit rotational velocity.

8. The device according to claim 6, wherein said velocity control circuit detects the linear velocity at which the vibration or shock is excessive when the beam spot is at the innermost radial part of the disk, and finds a corresponding rotational velocity as said limit rotational velocity.

9. The device according to claim 6, wherein said velocity control circuit causes the rotational velocity to decrease gradually; and finds the rotational velocity at which the vibration or shock is not excessive for the first time as said limit rotational velocity.

10. The device according to claim 6, wherein said velocity control circuit performs the determination of said limit rotational velocity each time a disk is inserted.

11. The device according to claim 6, wherein said device can selectively operate in a test mode or in a reproduction mode,

said velocity control circuit performs the determination of the limit rotational velocity in said test mode, and performs the control over the linear velocity so that the rotational velocity does not exceed the limit rotational velocity.

12. The device according to claim 11, wherein when the limit rotational velocity is determined in said test mode, said velocity control circuit causes a memory to store the address of a track or a sector at a point where the linear velocity should be switched to a higher value while the beam spot is moving radially outwards, said point being at a position where such switching does not result in the rotational velocity exceeding said limit rotational velocity, and

when the beam spot reaches said point in the reproduction mode said velocity control circuit causes the the switching of the linear velocity.

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